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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,130	04/01/2004	Uwe Papziner	3826 1041US	8095

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Dreiss, Fuhlendorf, Steimle &
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EXAMINER

NGUYEN, HOANG V

ART UNIT PAPER NUMBER

2821

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/814,130

Applicant(s)

PAPZINER ET AL.

Examiner

Hoang V. Nguyen

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/14/05 & 4/1/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6 and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Zurcher et al (US 5,355,143).

Regarding claim 1, Zurcher (Figure 1) discloses an antenna comprising a housing 1; a radio frequency substrate 23 disposed in the housing; a supply network 22 disposed on a first side of the radio frequency substrate; a metallic ground surface 2 disposed on a second side of the radio frequency substrate opposite the supply network, the metallic ground surface having an aperture 21; a radiative surface 11 firmly connected to the housing, the radiative surface excited by the supply network via the aperture in the metallic ground surface to radiate electromagnetic waves; and a dielectric (no number) disposed between the ground surface and the radiative surface.

Regarding claim 2, as applied to claim 1, Figure 1 of Zurcher shows that the dielectric is air.

Regarding claim 6, as applied to claim 1, Figure 1 of Zurcher shows that the radiative surface 11 is disposed on a side of the housing facing the ground surface 2.

Regarding claims 8-12, the antenna structure of Zurcher would enable the method for producing the antenna comprising the steps as claimed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zurcher et al in view of Paoletta et al (US 5,859,614).

Regarding claim 3, Zurcher discloses an antenna comprising a housing; a radio frequency substrate disposed in the housing; a supply network disposed on a first side of the radio frequency substrate; a metallic ground surface disposed on a second side of the radio frequency substrate opposite the supply network, the metallic ground surface having an aperture; a radiative surface firmly connected to the housing, the radiative surface excited by the supply network via the aperture in the metallic ground surface to radiate electromagnetic waves; and a dielectric disposed between the ground surface and the radiative surface. Zurcher fails to further teach a reinforcing structure disposed between the ground surface and the housing, the reinforcing structure having a thickness defining a separation between the ground surface and the radiative surface. Paoletta (Figure 1) discloses an antenna arrangement comprising a reinforcing structure 4 disposed between the ground surface 5 and the housing 2, the reinforcing structure having a thickness defining a separation between the ground surface and the radiative surface. It would have been obvious to one of ordinary skill in the art to employ the Zurcher antenna with a reinforcing structure, as taught by Paoletta, doing so would provide the Zurcher antenna with a

maintained and stable separation between the radiative surface and the ground surface as well as providing maximum bandwidth performance.

Regarding claim 4, as applied to claim 3, Figure 1 of Paolella shows that the reinforcing structure 4 is disposed between the ground surface 5 and a plane of the radiative surface.

Regarding claim 5, as applied to claim 3, Figure 1 of Paolella shows that the dielectric is air and an air volume which serves as the dielectric is defined by an opening 3 in the reinforcing structure 4, the opening disposed between the radiative surface and the ground surface.

Regarding claim 7, Zurcher discloses an antenna comprising a housing; a radio frequency substrate disposed in the housing; a supply network disposed on a first side of the radio frequency substrate; a metallic ground surface disposed on a second side of the radio frequency substrate opposite the supply network, the metallic ground surface having an aperture; a radiative surface firmly connected to the housing, the radiative surface excited by the supply network via the aperture in the metallic ground surface to radiate electromagnetic waves; and a dielectric disposed between the ground surface and the radiative surface. Zurcher fails to teach the configuration wherein the radiative surface is disposed on a side of the housing facing away from the ground surface. Paolella (Figure 1) discloses an antenna arrangement comprising a configuration wherein the radiative surface 1 is disposed on a side of the housing facing away from the ground surface 5. It would have been obvious to one of ordinary skill in the art to employ the Zurcher antenna with Paolella's radiative surface arrangement with respect to the ground surface, doing so would allow the Zurcher antenna to generate a different radiation characteristic more suitable to a desired application.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Patent 6,377,217 B1 discloses an antenna arrangement comprising a substrate with a feeding network disposed on one side and a ground plane with an aperture disposed on a second side; and a radiating element excited by the feeding network via the aperture in the ground plane.
- Patent 6,285,326 B1 discloses an antenna arrangement comprising a radiating element disposed on a housing and facing a ground plane.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V. Nguyen whose telephone number is (571) 272-1825. The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Nguyen can be reached on (571) 272-1825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application Number: 10/814,130

Page 6

Art Unit: 2821

Hvn

5/27/05

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**HOANG V. NGUYEN
PRIMARY EXAMINER**